

WHAT IS CLAIMED IS:

1. A method in a data processing system having a rule publisher program, the method comprising the steps performed by the rule publisher program of:

receiving a rule as input from a user, the rule defining a logic for determining exposure to failure of a computer-based system based on input data about the computer-based system;

preparing a rule datatype including the rule; and

publishing the rule datatype to a network connected to the data processing system.

2. The method according to claim 1, further comprising the steps of:
issuing a query to the network requesting a subscriber identifier of a subscriber to the rule datatype; and

receiving the subscriber identifier responsive to the issued query, wherein the rule datatype includes the subscriber identifier.

3. The method according to claim 1, wherein the rule datatype includes the rule in an extensible mark-up language file.

4. The method according to claim 1, wherein the rule datatype includes a rule identifier of the rule.

5. The method according to claim 1, wherein the rule datatype includes a version of the rule.

6. The method according to claim 1, wherein the rule datatype includes an input data identifier of the input data used by the rule.

7. The method according to claim 1, wherein the rule datatype includes an output identifier of an output of the rule.

8. The method according to claim 1, wherein the output of the rule comprises an indication of a potential exposure to failure of the computer-based system.

9. A computer-readable medium containing instructions that cause a data processing system having a rule publisher program to perform a method comprising the steps performed by the rule publisher program of:

receiving a rule as input from a user, the rule defining a logic for determining exposure to failure of a computer-based system based on input data about the computer-based system;

preparing a rule datatype including the rule; and

publishing the rule datatype to a network connected to the data processing system.

10. The computer-readable medium according to claim 9, further comprising the steps of:

issuing a query to the network requesting a subscriber identifier of a subscriber to the rule datatype; and

receiving the subscriber identifier responsive to the issued query, wherein the rule datatype includes the subscriber identifier.

11. The computer-readable medium according to claim 9, wherein the rule datatype includes the rule in an extensible mark-up language file.

12. The computer-readable medium according to claim 9, wherein the rule datatype includes a rule identifier of the rule.

13. The computer-readable medium according to claim 9, wherein the rule datatype includes a version of the rule.

14. The computer-readable medium according to claim 9, wherein the rule datatype includes an input data identifier of the input data used by the rule.

15. The computer-readable medium according to claim 9, wherein the rule datatype includes an output identifier of an output of the rule.

16. The computer-readable medium according to claim 9, wherein the output of the rule comprises an indication of a potential exposure to failure of the computer-based system.

17. A data processing system comprising:

a memory comprising a rule publisher program that receives a rule as input from a user, the rule defining a logic for determining exposure to failure of a computer-based system based on input data about the computer-based system, prepares a rule datatype including the rule, and publishes the rule datatype to a network connected to the data processing system; and

a processing unit that runs the rule publisher program.

18. The data processing system according to claim 17, wherein the rule deployment program issues a query to the network requesting a subscriber identifier of a subscriber to the rule datatype, and receives the subscriber identifier responsive to the issued query, wherein the rule datatype includes the subscriber identifier.

19. The data processing system according to claim 17, wherein the rule datatype includes the rule in an extensible mark-up language file.

20. The data processing system according to claim 17, wherein the rule datatype includes a rule identifier of the rule.

21. The data processing system according to claim 17, wherein the rule datatype includes a version of the rule.

22. The data processing system according to claim 17, wherein the rule datatype includes an input data identifier of the input data used by the rule.

23. The data processing system according to claim 17, wherein the rule datatype includes an output identifier of an output of the rule.

24. The data processing system according to claim 17, wherein the output of the rule comprises an indication of a potential exposure to failure of the computer-based system.

25. A data processing system comprising:

means for receiving a rule as input from a user, the rule defining a logic for determining exposure to failure of a computer-based system based on input data about the computer-based system;

means for preparing a rule datatype including the rule; and

5 means for publishing the rule datatype to a network connected to the data processing system.

26. A method in a data processing system having a rule engine deployment program, the method comprising the steps performed by the rule engine deployment program
10 of:

extracting a rule information from a subscribed-to rule datatype, wherein the rule information includes a rule that defines a logic for determining exposure to failure of a computer-based system based on input data about the computer-based system, an identifier of the input data used by the rule, and an identifier of the output data output based on execution
15 of the rule;

instantiating a rule engine for executing the rule, the rule engine subscribing to the identified input data and outputting the identified output data responsive to completing processing of the rule; and

20 deploying the rule engine within a wrapper that encapsulates the rule engine, the wrapper adapted to encapsulate a plurality of rule engines and publish the output data from the rule engine.

27. The method according to claim 26, further comprising the step of:
initializing the wrapper for encapsulating the rule engine; and
25 deploying the initialized wrapper.

28. The method according to claim 26, further comprising the step of:
receiving the subscribed to rule information.

30 29. The method according to claim 26, further comprising the step of:
receiving at least a second subscribed-to rule datatype;
extracting a second rule information from the second subscribed-to rule datatype,
wherein the second rule information includes a second rule, an identifier of the input data

used by the second rule, and an identifier of the output data output based on execution of the second rule;

instantiating a second rule engine for executing the second rule; and

5 deploying the second rule engine within at least one of the wrapper, which encapsulates the rule engine, and a different wrapper.

30. The method according to claim 26, wherein the rule information is within an extensible mark-up language file.

10 31. The method according to claim 26, wherein the rule information includes a preliminary rule that is deployed in the wrapper with the rule, the preliminary rule being executed by the rule engine prior to executing the rule.

15 32. The method according to claim 26, wherein the output data from the rule engine is subscribed to by another rule engine.

33. The method according to claim 26, wherein the output data includes an indication of a potential exposure to failure of the computer-based system.

20 34. The method according to claim 26, wherein the output data includes an exposure level to failure of the computer-based system.

25 35. The method according to claim 34, wherein the output data includes a confidence level of the exposure level.

36. The method according to claim 26, wherein the output data identifies whether the rule engine completed execution of the rule.

30 37. The method according to claim 26, wherein the output data identifies that an error occurred during execution of the rule.

38. The method according to claim 26, wherein the output data identifies that a side effect occurred during execution of the rule.

39. A computer-readable medium containing instructions that cause a data processing system having a rule engine deployment program to perform a method comprising the steps performed by the rule engine deployment program of:

extracting a rule information from a subscribed-to rule datatype, wherein the rule information includes a rule that defines a logic for determining exposure to failure of a computer-based system based on input data about the computer-based system, an identifier of the input data used by the rule, and an identifier of the output data output based on execution of the rule;

instantiating a rule engine for executing the rule, the rule engine subscribing to the identified input data and outputting the identified output data responsive to completing processing of the rule; and

deploying the rule engine within a wrapper that encapsulates the rule engine, the wrapper adapted to encapsulate a plurality of rule engines and publish the output data from the rule engine.

40. The computer-readable medium according to claim 39, further comprising the step of:

initializing the wrapper for encapsulating the rule engine; and
deploying the initialized wrapper.

41. The computer-readable medium according to claim 39, further comprising the step of:

receiving the subscribed to rule information.

42. The computer-readable medium according to claim 39, further comprising the step of:

receiving at least a second subscribed-to rule datatype;
extracting a second rule information from the second subscribed-to rule datatype, wherein the second rule information includes a second rule, an identifier of the input data used by the second rule, and an identifier of the output data output based on execution of the second rule;

instantiating a second rule engine for executing the second rule; and
deploying the second rule engine within at least one of the wrapper, which encapsulates the rule engine, and a different wrapper.

43. The computer-readable medium according to claim 39, wherein the rule information is within an extensible mark-up language file.

5 44. The computer-readable medium according to claim 39, wherein the rule information includes a preliminary rule that is deployed in the wrapper with the rule, the preliminary rule being executed by the rule engine prior to executing the rule.

10 45. The computer-readable medium according to claim 39, wherein the output data from the rule engine is subscribed to by another rule engine.

46. The computer-readable medium according to claim 39, wherein the output data includes an indication of a potential exposure to failure of the computer-based system.

15 47. The computer-readable medium according to claim 39, wherein the output data includes an exposure level to failure of the computer-based system.

48. The computer-readable medium according to claim 47, wherein the output data includes a confidence level of the exposure level.

20 49. The computer-readable medium according to claim 39, wherein the output data identifies whether the rule engine completed execution of the rule.

25 50. The computer-readable medium according to claim 39, wherein the output data identifies that an error occurred during execution of the rule.

51. The computer-readable medium according to claim 39, wherein the output data identifies that a side effect occurred during execution of the rule.

30 52. A data processing system comprising:
a memory comprising a rule engine deployment program that:
extracts a rule information from a subscribed-to rule datatype, wherein the rule information includes a rule that defines a logic for determining exposure to failure of a computer-based system based on input data about the computer-based system, an identifier of

the input data used by the rule, and an identifier of the output data output based on execution of the rule,

instantiates a rule engine for executing the rule, the rule engine subscribing to the identified input data and outputting the identified output data responsive to completing processing of the rule, and

deploys the rule engine within a wrapper that encapsulates the rule engine, the wrapper adapted to encapsulate a plurality of rule engines and publish the output data from the rule engine; and

a processing unit that runs the rule engine deployment program.

53. A data processing system comprising:

means for extracting a rule information from a subscribed-to rule datatype, wherein the rule information includes a rule that defines a logic for determining exposure to failure of a computer-based system based on input data about the computer-based system, an identifier of the input data used by the rule, and an identifier of the output data output based on execution of the rule;

means for instantiating a rule engine for executing the rule, the rule engine subscribing to the identified input data and outputting the identified output data responsive to completing processing of the rule; and

means for deploying the rule engine within a wrapper that encapsulates the rule engine, the wrapper adapted to encapsulate a plurality of rule engines and publish the output data from the rule engine.

54. A method in a data processing system having a rule engine program encapsulated within a wrapper, the method comprising the steps performed by the rule engine program of:

receiving subscribed-to input data about a computer-based system;

executing a rule that defines a logic for determining exposure to failure of the computer-based system based on the received input data; and

outputting an output data responsive to a determination that there is an exposure to failure.

55. The method according to claim 54, further comprising the step of:

prior to executing the rule, executing a preliminary rule to determine whether the rule is to be executed.

56. The method according to claim 54, wherein the output data from the rule engine is subscribed to by another rule engine.

57. The method according to claim 54, wherein the output data includes an indication of a potential exposure to failure of the computer-based system.

58. The method according to claim 54, wherein the output data includes an exposure level to failure of the computer-based system.

59. The method according to claim 58, wherein the output data includes a confidence level of the exposure level.

60. The method according to claim 54, wherein the output data identifies whether the rule engine completed execution of the rule.

61. The method according to claim 54, wherein the output data identifies that an error occurred during execution of the rule.

62. The method according to claim 54, wherein the output data identifies that a side effect occurred during execution of the rule.

63. A computer-readable medium containing instructions that cause a data processing system having a rule engine program to perform a method comprising the steps performed by the rule engine program of:

receiving subscribed-to input data about a computer-based system;

executing a rule that defines a logic for determining exposure to failure of the computer-based system based on the received input data; and

outputting an output data responsive to a determination that there is an exposure to failure.

64. The computer-readable medium according to claim 63, further comprising the step of:

prior to executing the rule, executing a preliminary rule to determine whether the rule is to be executed.

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65. The computer-readable medium according to claim 63, wherein the output data from the rule engine is subscribed to by another rule engine.

66. The computer-readable medium according to claim 63, wherein the output data includes an indication of a potential exposure to failure of the computer-based system.

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67. The computer-readable medium according to claim 63, wherein the output data includes an exposure level to failure of the computer-based system.

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68. The computer-readable medium according to claim 67, wherein the output data includes a confidence level of the exposure level.

69. The computer-readable medium according to claim 63, wherein the output data identifies whether the rule engine completed execution of the rule.

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70. The computer-readable medium according to claim 63, wherein the output data identifies that an error occurred during execution of the rule.

71. The computer-readable medium according to claim 63, wherein the output data identifies that a side effect occurred during execution of the rule.

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72. A data processing system comprising:

a memory comprising a rule engine program encapsulated within a wrapper that receives subscribed-to input data about a computer-based system, executes a rule that defines a logic for determining exposure to failure of the computer-based system based on the received input data, and outputs an output data responsive to a determination that there is an exposure to failure; and

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a processing unit that runs the rule engine program.

73. A data processing system having a rule engine encapsulated within a wrapper, the data processing system comprising:

means for receiving subscribed-to input data about a computer-based system;

5 means for executing a rule that defines a logic for determining exposure to failure of the computer-based system based on the received input data; and

means for outputting an output data responsive to a determination that there is an exposure to failure.

10 74. A computer-readable memory device encoded with a program having a data structure, the program run by a processor in a data processing system, the data structure comprising:

15 an exposure level to failure of a computer-based system and an identifier of the computer-based system, the program receiving a subscribed-to input data about the computer-based system, executing a rule that defines a logic for determining exposure to failure of the computer-based system based on the received input data; and calculating the exposure level responsive to a determination that there is an exposure to failure.